

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/02641

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04N 7/12, 173; H04J 1/00
US CL : 348/423; 370/485, 486, 487; 725/109, 119

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 370/355, 485, 486, 487; 348/423; 725/109, 119

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,130,898 A (KOSTRESKI et al) 10 October 2000, column 8 lines 12-22	1-2, 7, 12-18, 20-21
A	US 2002/0147978 A1 (DOLGONOS et al) 10 October 2002, page 1 paragraph 0005	1-24
A,E	US 6,876,852 b1 (LI et al) 05 April 2005, column 2 lines 28-31	1-24

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

10 May 2005 (10.05.2005)

Date of mailing of the international search report

26 MAY 2005

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Ricky Ngo

Telephone No. (703) 305-3996

Ruggerio Zozan

Box No. VIII (iv) DECLARATION: INVENTORSHIP (only for the purposes of the designation of the United States of America)
The declaration must conform to the following standardized wording provided for in Section 214; see Notes to Boxes Nos. VIII, VIII (i) to (v) (in general) and the specific Notes to Box No. VIII (iv). If this Box is not used, this sheet should

Declaration of Inventorship (Rules 4.17(iv) and 51bis.1(a)(iv))
 for the purposes of the designation of the United States of America:

I hereby declare that I believe I am the original, first and sole (if only one inventor is listed below) or joint (if more than one inventor is listed below) inventor of the subject matter which is claimed and for which a patent is sought.

This declaration is directed to the international application of which it forms a part (if filing declaration with application).

This declaration is directed to international application (if furnishing declaration pursuant to Rule 26ter).

I hereby declare that my residence, mailing address, and citizenship are as stated next to my name.

I hereby state that I have reviewed and understand the contents of the above-identified international application, including the claims of said application. I have identified in the request of said application, in compliance with PCT Rule 4.10, any claim to foreign priority, and I have identified below, under the heading "Prior Applications," by application number, country or Member of the World Trade Organization, day, month and year of filing, any application for a patent or inventor's certificate filed in a country other than the United States of America, including any PCT international application designating at least one country other than the United States of America, having a filing date before that of the application on which foreign priority is claimed.

Prior Applications:

I hereby acknowledge the duty to disclose information that is known by me to be material to patentability as defined by 37 C.F.R. §1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the PCT international filing date of the continuation-in-part application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name: John C. Hildebrand

Residence: Lawrenceville, Georgia
 (city and either US state, if applicable, or country)

Mailing Address: 390 Silver Creek Run
 Lawrenceville, Georgia 30044

Citizenship: United States of America

Inventor's Signature: *[Signature]*
 (if not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)

Date: 1/31/05
 (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)

Name: Francisco Gonzalez

Residence: Atlanta, Georgia
 (city and either US state, if applicable, or country)

Mailing Address: 7485 Hunters Wood Drive
 Atlanta, Georgia 30350

Citizenship: United States of America

Inventor's Signature: *[Signature]*
 (if not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)

Date: 1/31/05
 (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)

☐ This declaration is continued on the following sheet, "Continuation of Box No. VIII (iv)".

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2004008612	FOR FURTHER ACTION		See Form PCT/IPEA/416																								
International application No. PCT/US05/02641	International filing date (day/month/year) 31 January 2005 (31.01.2005)	Priority date (day/month/year) 29 January 2004 (29.01.2004)																									
International Patent Classification (IPC) or national classification and IPC IPC: H04N 7/12, 173; H04J 1/00 USPC: 348/423; 370/485, 486, 487; 725/109, 119																											
Applicant HILDEBRAND, JOHN G																											
<ol style="list-style-type: none"> 1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: <ol style="list-style-type: none"> a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>1</u> sheets, as follows: <div style="margin-left: 20px;"> <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. </div> b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). 																											
<ol style="list-style-type: none"> 4. This report contains indications relating to the following items: <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;"><input checked="" type="checkbox"/></td> <td style="width: 30%;">Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> 				<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
<input checked="" type="checkbox"/>	Box No. I	Basis of the report																									
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<input type="checkbox"/>	Box No. VIII	Certain observations on the international application																									
Date of submission of the demand 29 November 2005 (29.11.2005)		Date of completion of this report 17 April 2006 (17.04.2006)																									
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201		Authorized officer Ricky Ngo <i>Renai</i> Telephone No. (571) 272-3139																									

Form PCT/IPEA/409 (cover sheet)(April 2005)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US05/02641

Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☒ the international application in the language in which it was filed.
- ☐ a translation of the international application into English, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4(a))
- ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-8 as originally filed/furnished
- pages* NONE received by this Authority on _____
- pages* NONE received by this Authority on _____
- ☒ the claims:
- pages 9-12 as originally filed/furnished
- pages* NONE as amended (together with any statement) under Article 19
- pages* NONE received by this Authority on _____
- pages* NONE received by this Authority on _____
- ☒ the drawings:
- pages 1 as originally filed/furnished
- pages* 1/1 received by this Authority on 20 March 2006 (20.03.2006)
- pages* NONE received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE
- ☒ the claims, Nos. NONE
- ☒ the drawings, sheets/figs NONE
- ☒ the sequence listing (*specify*): NONE
- ☒ any table(s) related to the sequence listing (*specify*): NONE

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US05/02641**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>3-6, 8-11, 19, 22-24</u>	YES
	Claims <u>1-2, 7, 12-18, 20-21</u>	NO
Inventive Step (IS)	Claims <u>3-6, 8-11, 19, 22-24</u>	YES
	Claims <u>1-2, 7, 12-18, 20-21</u>	NO
Industrial Applicability (IA)	Claims <u>1-24</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and Explanations (Rule 70.7)
Please See Continuation Sheet

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US05/02641

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

V. 2. Citations and Explanations:

1. Applicant's arguments filed March 20, 20006 have been fully considered but they are not persuasive.

On page 3 of the amendment, the Applicant respectfully traverses the feature of integrating signals into a common transport stream as in the presently claimed invention. However the Examiner respectfully disagrees with the Applicant. Kostreski discloses a terminal including some form of a wireless signal processor for processing a selected one of the 6 MHz channels from the transport signal to recover the multiplexed transport stream (column 20 lines 21-24). Although the present invention integrates television and non-television signals within the same frequency channel, it can be appreciated by one of ordinary skill in the art that a receiver of the integrated signal utilizes some sort of demultiplexing feature to select one of the television or non-television programs for processing. Thus the integrated signal of the present invention and the 6 MHz channels combined signal of Kostreski can be interpreted in the same way.

2. Claims 1-2, 7, 12-18, and 20-21 fail to meet the requirement of novelty under PCT Article 33(2) as being anticipated by Kostreski et al. (US 6,130,898), hereinafter referred to as Kostreski.

Regarding claim 1, Kostreski discloses a system comprising: a source having a number of encoders configured to packetize broadcast television signals (figure 6A units 10 & 11, column 11 lines 62-65 and column 12 lines 27-30; a broadcast headend includes encoders that packetize digital data); and a bi-directional communication unit (BDCU) located remotely from the source and configured to communicated packetized data signals between customer equipment

Supplemental Box

(CE) and a network according to data transmission protocols (figure 4 units 5 & 51, column 16 lines 24-30 and column 16 lines 54-56; an interactive service headend is connected to a network and provides a transport for data packets between the network and customer systems), the BDCU including a multiplexer for integrating the packetized television signals with the packetized data signals for transport to the CE in an integrated transport stream defined as a function of the data transmission protocols (figure 6A unit 15; column 17 lines 32-41 and column 8 lines 23-29; an RF combiner that merges the data from the interactive service headend and the signal from the broadcast headend into a single output stream for a transmitter system to transmit the data to a customer premise system).

Regarding claim 2, Kostreski discloses the limitations: wherein the source includes at least one multiplexer configured to combine the packetized television signals into a multiple program transport stream (MPTS) prior to transport to the BDCU (figure 6A unit 12 and column 13 lines 47-48; the encoder supplies multiple packet streams to a multiplexer, which merges them into a single stream and then sends it to the RF combiner).

Regarding claim 7, Kostreski discloses a method comprising: receiving the multimedia signals at the BDCU; integrating the received multimedia signals with a BDCU transport; and transmitting the integrated transport from the BDCU to the CE (figure 6A unit 5, 10, & 15 and column 11 lines 62-64, column 16 lines 65-67, column 17 lines 32-41 and column 8 lines 23-29; a broadcast headend produces digital transport streams, an interactive service headend connects to a network and provides transport for data packets between a network and customer systems and an RF combiner receives the digital transport streams from the broadcast headend, data packets from the interactive service headend and merges them into a single output stream for a transmitter system to transmit to customer premise systems).

Regarding claim 12, Kostreski discloses multiplexing the multimedia signals into a transport (figure 6A unit 12 and column 13 lines 47-48; the encoder supplies multiple packet streams to a multiplexer, which merges them into a single stream and then sends it to the RF combiner) and transmitting the transport to the BDCU for the integration with the BDCU transport (figure 6A unit 15; column 17 lines 32-41 and column 8 lines 23-29; an RF combiner that merges the data from the interactive service headend and the signal from the broadcast headend into a single output stream for a transmitter system to transmit the data to a customer premise system).

Regarding claim 13, Kostreski discloses configuring the transport according to the MPEG-2 protocols (column 12 lines 16-20; MPEG II encoding of video and audio information is utilized).

Regarding claim 14, Kostreski discloses configuring the multimedia signals to include audio and video elements (column 1 lines 18-19; program information includes video, audio, and data).

Regarding claim 15, Kostreski discloses configuring the multimedia signals to include program specific information of system information (column 13 lines 12-19; the transport stream includes a 13-bit program identification number PID).

Regarding claim 16, Kostreski discloses configuring the BDCU for communicating the integrated signals according to data over cable service interface specifications (DOCSIS) transport (figure 6A unit 15; column 17 lines 32-41 and column 8 lines 23-29; an RF combiner that merges the data from an interactive service headend and the signal from the broadcast headend into a single output stream for a transmitter system to transmit the data to a customer premise system).

Regarding claim 17, Kostreski discloses a method comprising: packetizing the television signals (figure 6A unit 11 and column 12 lines 27-30; encoders packetize digital data); integrating the television packets into a DOCSIS transport; and transporting the packetized television signals through the DOCSIS transport to customer equipment (CE) (figure 6A unit 15; column 17 lines 32-41 and column 8 lines 23-29; an RF combiner that merges the data from an interactive service headend and the signal from the broadcast headend into a single output stream for a transmitter system to transmit the data to a customer premise system).

Regarding claim 18, Kostreski discloses multiplexing the packetized television signals into a MPEG-2 transport at a cable headend (figure 6A units 10 & 12 and column 13 lines 45-48; in the broadcast headend, the encoders supply MPEG packet streams to a MPEG multiplexer), transmitting the MPEG-2 transport from the headend to the cable modem termination station (CMTS), and integrating the television packets carried in the MPEG-2 transport with the DOCSIS

Supplemental Box

transport at the CMTS (figure 6A unit 15; column 17 lines 32-41 and column 8 lines 23-29; an RF combiner that merges the data from an interactive service headend and the signal from the broadcast headend into a single output stream to transmit the data to a customer premise system).

Regarding claim 20, Kostreski discloses a system comprising: a headend configured to packetize the television signals (figure 6A unit 10, column 11 lines 62-65 and column 12 lines 27-30; a broadcast headend includes encoders that packetize digital data); a cable modem termination station (CMTS) in communication with the headend for integrating the television packets into a DOCSIS transport; and customer equipment (CE) configured to recover the packetized television signals from the DOCSIS transport (figure 6A unit 15; column 17 lines 32-41 and column 8 lines 23-29; an RF combiner that merges the data from an interactive service headend and the signal from the broadcast headend into a single output stream for a transmitter system to transmit the data to a customer premise system).

Regarding claim 21, Kostreski discloses wherein the headend includes a multiplexer for combining the packetized television signals into a MPEG-2 transport output to the CMTS (figure 6A unit 12 and column 13 lines 45-48; the encoders supply MPEG packet streams to a MPEG multiplexer).

3. Claims 3-6, 8-11, 19, 22-24 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest (1) a network communicator encapsulating multimedia signals for network communication and (2) a video server configured for packetizing streaming video, where the streaming video is integrated with television signals.

4. Claims 1-24 meet the criteria set out in PCT Article 33(4), and thus a method and system of transporting multimedia signals from a source to customer equipment has industrial applicability because the subject matter claimed can be made or used in industry.

NEW CITATIONS

US 2005/0123001 A1 (CRAVEN et al) 9 June 2005

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:
JOHN R. BUSER
1000 TOWN CENTER
TWENTY-SECOND FLOOR
SOUTHFIELD, MI 48075

PCT

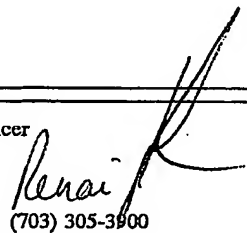
COMMUNICATION IN CASES FOR WHICH
NO OTHER FORM IS APPLICABLE

	Date of Mailing (day/month/year)
Applicant's or agent's file reference 2004008612	REPLY DUE see paragraph 1 below
International application No. PCT/US05/02641	International filing date (day/month/year) 31 January 2005 (31.01.2005)
Applicant HILDEBRAND, JOHN G	

1. ☐ REPLY DUE within ____ months/days from the above date of mailing

☒ NO REPLY DUE

2. COMMUNICATION:

Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/ US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer Ricky Ngo  Telephone No. (703) 305-3900
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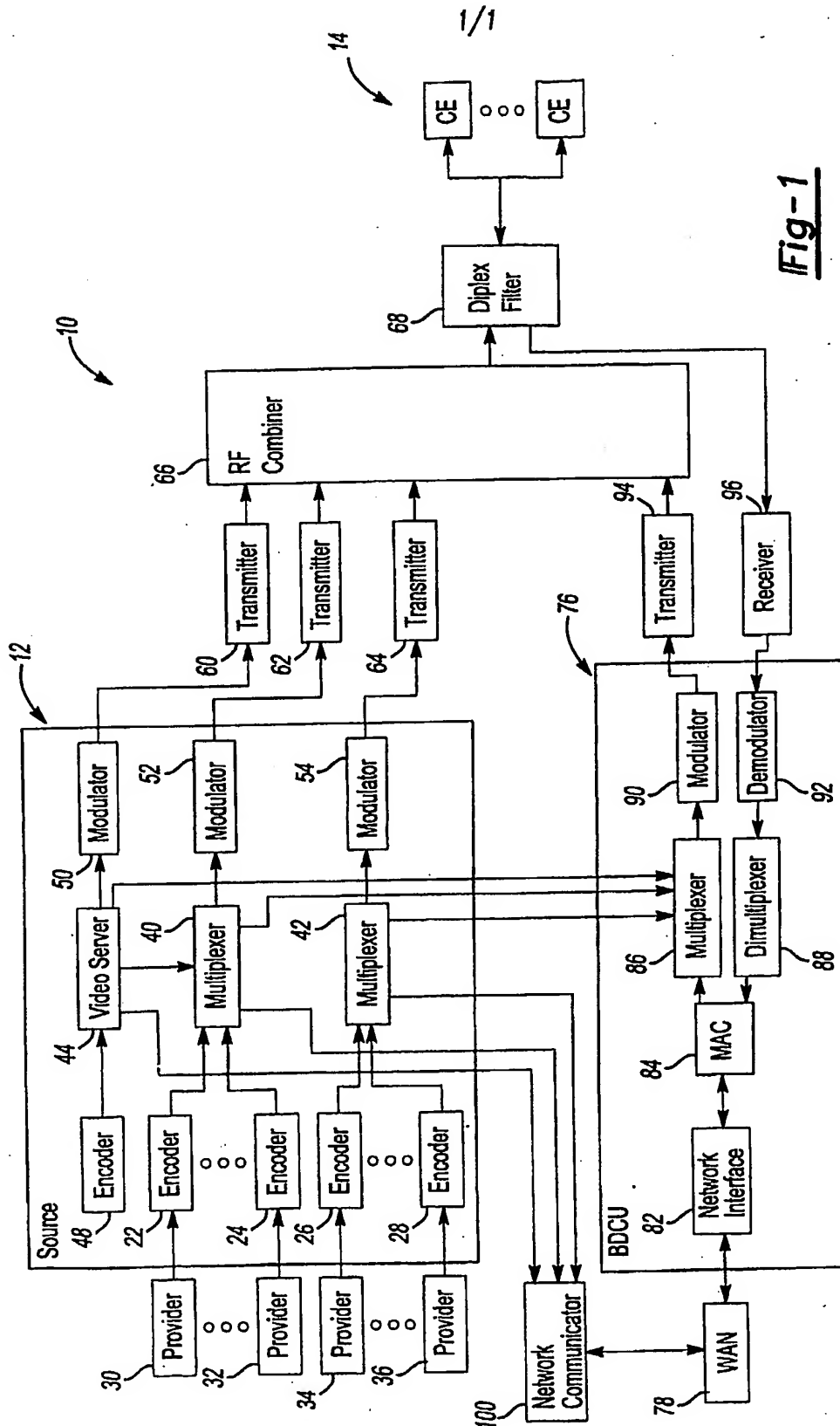


Fig-1

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

REC'D 30 MAY 2005

WIPO

PCT

To:
JOHN R. BUSER
1000 TOWN CENTER
TWENTY-SECOND FLOOR
SOUTHFIELD, MI 48075

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **26 MAY 2005**

Applicant's or agent's file reference

FOR FURTHER ACTION

See paragraph 2 below

2004008612

International application No.

International filing date (day/month/year)

Priority date (day/month/year)

PCT/US05/02641

31 January 2005 (31.01.2005)

29 January 2004 (29.01.2004)

International Patent Classification (IPC) or both national classification and IPC

IPC(7): H04N 7/12, 173; H04J 1/00 and US Cl.: 348/423; 370/485, 486, 487; 725/109, 119

Applicant

HILDEBRAND, JOHN G

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Ricky Ngo

Telephone No. (703) 305-3900

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US05/02641

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US05/02641

Box No. V Reasoned statement under Rule 43 *bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Claims 3-6, 8-11, 19, 22-24 YES

Claims 1-2, 7, 12-18, 20-21 NO

Inventive step (IS)

Claims 3-6, 8-11, 19, 22-24 YES

Claims 1-2, 7, 12-18, 20-21 NO

Industrial applicability (IA)

Claims 1-24 YES

Claims NONE NO

2. Citations and explanations:

Please See Continuation Sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US05/02641

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

The drawings are objected to under PCT Rule 66.2(a)(iii) as containing the following defect(s) in the form or content thereof: in figure 1, the Provider and Network Interface are both denoted with the reference character "30".

The description is objected to as containing the following defect(s) under PCT Rule 66.2(a)(iii) in the form or contents thereof: on page 6 lines 7 and 15-16, the Network Interface is denoted with the reference character "82" but corresponding figure 1 does not include that reference character for that unit.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US05/02641

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

V. 2. Citations and Explanations:

1. Claims 1-2, 7, 12-18, and 20-21 lack novelty under PCT Article 33(2) as being anticipated by Kostreski et al. (US 6,130,898), hereinafter referred to as Kostreski.

Regarding claim 1, Kostreski discloses a system comprising: a source having a number of encoders configured to packetize broadcast television signals (figure 6A units 10 & 11, column 11 lines 62-65 and column 12 lines 27-30; a broadcast headend includes encoders that packetize digital data); and a bi-directional communication unit (BDCU) located remotely from the source and configured to communicate packetized data signals between customer equipment (CE) and a network according to data transmission protocols (figure 4 units 5 & 51, column 16 lines 24-30 and column 16 lines 54-56; an interactive service headend is connected to a network and provides a transport for data packets between the network and customer systems), the BDCU including a multiplexer for integrating the packetized television signals with the packetized data signals for transport to the CE in an integrated transport stream defined as a function of the data transmission protocols (figure 6A unit 15; column 17 lines 32-41 and column 8 lines 23-29; an RF combiner that merges the data from the interactive service headend and the signal from the broadcast headend into a single output stream for a transmitter system to transmit the data to a customer premise system).

Regarding claim 2, Kostreski discloses the limitations: wherein the source includes at least one multiplexer configured to combine the packetized television signals into a multiple program transport stream (MPTS) prior to transport to the BDCU (figure 6A unit 12 and column 13 lines 47-48; the encoder supplies multiple packet streams to a multiplexer, which merges them into a single stream and then sends it to the RF combiner).

Regarding claim 7, Kostreski discloses a method comprising: receiving the multimedia signals at the BDCU; integrating the received multimedia signals with a BDCU transport; and transmitting the integrated transport from the BDCU to the CE (figure 6A unit 5, 10, & 15 and column 11 lines 62-64, column 16 lines 65-67, column 17 lines 32-41 and column 8 lines 23-29; a broadcast headend produces digital transport streams, an interactive service headend connects to a network and provides transport for data packets between a network and customer systems and an RF combiner receives the digital transport streams from the broadcast headend, data packets from the interactive service headend and merges them into a single output stream for a transmitter system to transmit to customer premise systems).

Regarding claim 12, Kostreski discloses multiplexing the multimedia signals into a transport (figure 6A unit 12 and column 13 lines 47-48; the encoder supplies multiple packet streams to a multiplexer, which merges them into a single stream and then sends it to the RF combiner) and transmitting the transport to the BDCU for the integration

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International application No.
PCT/US05/02641

Supplemental Box

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with the BDCU transport (figure 6A unit 15; column 17 lines 32-41 and column 8 lines 23-29; an RF combiner that merges the data from the interactive service headend and the signal from the broadcast headend into a single output stream for a transmitter system to transmit the data to a customer premise system).

Regarding claim 13, Kostreski discloses configuring the transport according to the MPEG-2 protocols (column 12 lines 16-20; MPEG II encoding of video and audio information is utilized).

Regarding claim 14, Kostreski discloses configuring the multimedia signals to include audio and video elements (column 1 lines 18-19; program information includes video, audio, and data).

Regarding claim 15, Kostreski discloses configuring the multimedia signals to include program specific information of system information (column 13 lines 12-19; the transport stream includes a 13-bit program identification number PID).

Regarding claim 16, Kostreski discloses configuring the BDCU for communicating the integrated signals according to data over cable service interface specifications (DOCSIS) transport (figure 6A unit 15; column 17 lines 32-41 and column 8 lines 23-29; an RF combiner that merges the data from an interactive service headend and the signal from the broadcast headend into a single output stream for a transmitter system to transmit the data to a customer premise system).

Regarding claim 17, Kostreski discloses a method comprising: packetizing the television signals (figure 6A unit 11 and column 12 lines 27-30; encoders packetize digital data); integrating the television packets into a DOCSIS transport; and transporting the packetized television signals through the DOCSIS transport to customer equipment (CE) (figure 6A unit 15; column 17 lines 32-41 and column 8 lines 23-29; an RF combiner that merges the data from an interactive service headend and the signal from the broadcast headend into a single output stream for a transmitter system to transmit the data to a customer premise system).

Regarding claim 18, Kostreski discloses multiplexing the packetized television signals into a MPEG-2 transport at a cable headend (figure 6A units 10 & 12 and column 13 lines 45-48; in the broadcast headend, the encoders supply MPEG packet streams to a MPEG multiplexer), transmitting the MPEG-2 transport from the headend to the cable modem termination station (CMTS), and integrating the television packets carried in the MPEG-2 transport with the DOCSIS transport at the CMTS (figure 6A unit 15; column 17 lines 32-41 and column 8 lines 23-29; an RF combiner that merges the data from an interactive service headend and the signal from the broadcast headend into a single output stream to transmit the data to a customer premise system).

Regarding claim 20, Kostreski discloses a system comprising: a headend configured to packetize the television signals (figure 6A unit 10, column 11 lines 62-65 and column 12 lines 27-30; a broadcast headend includes encoders that packetize digital data); a cable modem termination station (CMTS) in communication with the headend for integrating the television packets into a DOCSIS transport; and customer equipment (CE) configured to recover the packetized television signals from the DOCSIS transport (figure 6A unit 15; column 17 lines 32-41 and column 8 lines 23-29; an RF combiner that merges the data from an interactive service headend and the signal from the broadcast headend into a single output stream for a transmitter system to transmit the data to a customer premise system).

Regarding claim 21, Kostreski discloses wherein the headend includes a multiplexer for combining the packetized television signals into a MPEG-2 transport output to the CMTS (figure 6A unit 12 and column 13 lines 45-48; the encoders supply MPEG packet streams to a MPEG multiplexer).

2. Claims 3-6, 8-11, 19, 22-24 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest (1) a network communicator encapsulating multimedia signals for network communication and (2) a video server configured for packetizing streaming video, where the streaming video is integrated with television signals.

3. Claims 1-24 meet the criteria set out in PCT Article 33(4), and thus a method and system of transporting multimedia signals from a source to customer equipment has industrial applicability because the subject matter claimed can be made or used in industry.